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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,797	07/30/2003	David Chao Hua Wu	1875.4730000	9430

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WASHINGTON, DC 20005

EXAMINER

DO, CHAT C

ART UNIT	PAPER NUMBER
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2193

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08/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/629,797	Applicant(s) WU, DAVID CHAO HUA	
	Examiner CHAT C. DO	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007 and 03 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Amendment filed 08/31/2007 and 04/03/2008.
2. Claims 21-25 are pending in this application. Claim 21 is the independent claim. In Amendment, claims 1-20 and 26-31 are cancelled. This Office Action is made non-final after a RCE filed 08/31/2007.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 21-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 21, the limitation “a frequency modulator (FM) including,” is unclear as what the FM modulator including. For examination purposes, the examiner considers the FM modulator including the next two following components the second filter and the FM device within the claim.

Re claim 22, the limitation “Q'(n) and I'(n)” is unclear as what are these parameters. For examination purposes, the examiner considers the Q'(n) as delay version of Q(n) as I(n) and the I'(n) is the delay version of I(n) as Q(n).

Thus, claims 23-25 are also rejected for being dependent on the rejected base claim 21.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collier et al. (U.S. 5,404,405) in view of Matsui (U.S. 4,716,589).

Re claim 21, Collier et al. disclose in Figure 1 a system for producing a pulse code modulation (PCM) signal (e.g. abstract, Figure 1 and col. 1 lines 18-41), comprising: a first filter configured to produce an input signal $I(n)$ from a signal (e.g. by component 8 in Figure 1 and col. 2 lines 63-68); a frequency modulator (FM) including (e.g. all the components 18, 20, 22, 24, 26, 28, 30 and 34 in Figure 1), a second filter that generates a quadrature-phase signal $Q(n)$ from the input signal $I(n)$ (e.g. the Hilbert filter 18 in Figure 1), a FM device configured to generate a frequency modulated signal $FM(n)$ from the input signal $I(n)$ and the quadrature-phase signal $Q(n)$ (e.g. output of components 30 and 34 in Figure 1), and a third filter configured to produce the pulse code modulation (PCM) signal from the $FM(n)$ signal (e.g. output of the filters 40 and 42 in Figure 1).

Collier et al. fail to disclose the signal is the secondary audio program (SAP). However, SAP is known in the art as clearly addressed in Matsui's reference. Matsui's

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reference discloses the SAP throughout the specification (e.g. col. 1 lines 14-51) with similar modulation/demodulation scheme.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to replace/add the signal with the SAP as clearly seen in Matsui's invention into Collier et al.'s invention because it would enable to reproduce the information from the broadcasting signal (e.g. whole column 1 and col. 3 lines 51-68).

Re claim 22, Collier et al. further disclose in Figure 1 the FM(n) signal equals $[I(n)Q'(n)-I'(n)Q(n)] / [I^2(n)+Q^2(n)]$ (e.g. by component 30 in Figure 1).

Re claim 23, Collier et al. in view of Matsui further to disclose in Figure 1 the SAP signal is a constant magnitude signal, a sine wave, or a cosine wave (e.g. inherently for FM modulation scheme).

Re claim 24, Collier et al. further disclose in Figure 1 the first filter is a band pass filter (e.g. filter 8 in Figure 1 and col. 2 lines 63-68 for selective band).

Re claim 25, Collier et al. further disclose in Figure 1 the second filter is a Hilbert filter (e.g. by the filter 18 in Figure 1 for phase shifting the original signal $I(n)$).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

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Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 21-25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 9 of U.S. Patent No. 7,006,806. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claims 1, 3 and 9 of Patent No. 7,006,806 contain every element of claims 21-25 of the instant application and thus anticipated the claims of the instant application.

Claims of the instant application therefore are not patentably distinct from the earlier patent claims and as such are unpatentable over obvious-type double patenting. A later patent/application claim is not patentably distinct from an earlier claim if the later claim is anticipated by the earlier claim.

"A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or **anticipated by**, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " *ELI LILLY AND COMPANY v BARB LABORATORIES, INC.*, United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

"Claim 12 and Claim 13 are generic to the species of invention covered by claim 3 of the patent. Thus, the generic invention is **"anticipated"** by the species of the patented invention. Cf., *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (holding that an earlier species disclosure in the prior art defeats any generic claim) 4. This court's predecessor has held that, without a terminal disclaimer, the species claims preclude issuance of the generic application. *In re Van Ornum*, 686 F.2d 937, 944, 214 USPQ 761, 767 (CCPA 1982); *Schneller*, 397 F.2d at 354. Accordingly, absent a terminal disclaimer, claims 12 and 13 were properly rejected under the doctrine of obviousness type double patenting." (*In re Goodman* (CA FC) 29 USPQ2d 2010 (12/3/1993)).

Response to Arguments

9. Applicant's arguments with respect to claims 21-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 4,628,539 to Selwa discloses a muting circuit.
- b. U.S. Patent No. 4,716,589 to Matsui discloses a multivoice signal switching circuit.
- c. U.S. Patent No. 4,803,700 to Dewey et al. disclose a method of, and demodulator for, digitally demodulating an SSB signal.
- d. U.S. Patent No. 5,404,405 to Collier et al. disclose a FM stereo decoder and method using digital signal processing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAT C. DO whose telephone number is (571)272-3721. The examiner can normally be reached on Tue-Fri 9:00AM to 7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chat C. Do/
Primary Examiner, Art Unit 2193

August 13, 2008